

AMENDMENTS TO THE CLAIMS

Please amend Claims 1-4 and 9-19 as follows:

1. (Currently amended) An electroluminescent device comprising at least one of a hole-injecting layer and an electron-injecting layer, wherein the at least one of the hole-injecting layer and the electron-injecting layer comprises a single ion conductor polymeric compound and a movable ion, wherein the polymeric compound has at least one block of $[O-(CH_2)_x]_y$ units and at least one non-movable ionic moiety, wherein x is an integer equal to or greater than two, wherein y is an integer equal to or greater than two, and wherein the movable ion and the at least one non-movable ionic moiety are counter ions.

2. (Currently amended) An electroluminescent device comprising:
a transparent-substrate;
a first semitransparent-electrode deposited on the transparent-substrate;
a hole-injecting layer positioned on the semitransparent electrode;
an emissive layer comprising an organic electroluminescent material, positioned on the hole-injecting layer;
an electron-injecting layer positioned on the emissive layer; and,
a second metal-electrode deposited over on the electron-injecting layer;
at least one of a hole-injecting layer and an electron injecting layer, the hole-injecting layer being positioned between the emissive layer and the first electrode, the electron-injecting layer being positioned between the emissive layer and the second electrode; and

wherein the hole-injecting layer, the electron-injecting layer, or both, comprises a single ion conductor. polymeric compound and a movable ion, wherein the polymeric compound has at least one block of $[O-(CH_2)_x]_y$ units and at least one non-movable ionic moiety, wherein x is an integer equal to or greater than two, wherein y is an integer equal to or greater than two, and wherein the movable ion and the at least one non-movable ionic moiety are counter ions.

3. (Currently amended) The electroluminescent device of Claim 2, wherein the transparent-substrate comprises a material selected from the group consisting of glass, quartz, and polyethylene terephthalate.

4. (Currently amended) The electroluminescent device of Claim 2, wherein the ~~first~~semitransparent electrode comprises a material selected from the group consisting of lead oxide, indium tin oxide, doped polyaniline, doped polypyrrole, doped polythiophene, and polyethylene dioxythiophene.

5. (Original) The electroluminescent device of Claim 2, wherein the emissive layer comprises a material selected from the group consisting of emissive conjugated polymer, emissive non-conjugated polymer, emissive monomeric or oligomeric material, poly(meta-methylacrylic acid), poly(styrene), and poly(9-vinylcarbazole).

6. (Original) The electroluminescent device of Claim 5, wherein the emissive conjugated polymer is selected from the group consisting of poly(*p*-phenylene vinylene), poly(thiophene), poly(*p*-phenylene), poly(fluorene), poly(arylenes), poly(arylene vinylene), polyquinoline, polypyrrole, polyaniline, polyacetylene, and derivatives thereof.

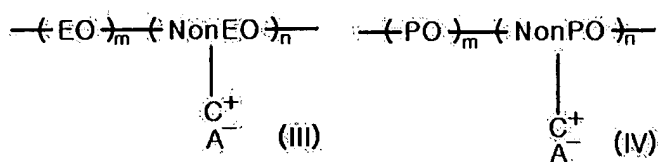
7. (Original) The electroluminescent device of Claim 5, wherein the emissive non-conjugated polymer is a polymer having non-conjugated main chains and side chains substituted with emissive functional groups.

8. (Original) The electroluminescent device of Claim 5, wherein the emissive monomeric or oligomeric material is selected from the group consisting of alumina quinone, rubrene, anthracene, perylenene, coumarine 6, Nile red, aromatic diamine, N,N'-diphenyl-N,N'-bis-(3-methylphenyl)-1,1'-biphenyl-4,4'-diamine), (3-(4-biphenyl)-4-phenyl-5-(4-tert-butylphenyl)-1,2,4-triazole), (dicyanomethylene)-2-methyl-6-(*p*-dimethylaminostyryl)-4*H*-pyran), and derivatives thereof.

9. (Currently amended) The electroluminescent device of Claim 2, wherein the ~~second~~metal electrode comprises a material selected from the group consisting of aluminum, magnesium, lithium, calcium, copper, silver, iron, platinum, indium, palladium, tungsten, zinc, gold, lead, and alloys thereof.

10. (Currently amended) The electroluminescent device of Claim 2, wherein the movable ion in the hole-injecting layer is an~~comprises a single~~ anion-conductor.

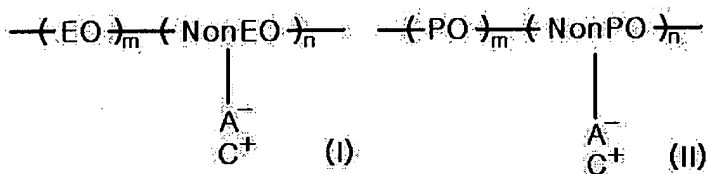
11. (Currently amended) The electroluminescent device of Claim 2~~40~~, wherein the polymeric compound is represented by one or more formulas~~single anion-conductor comprises a~~ material selected from the group consisting of ~~polymer of the formula (III) and polymer of the~~ formula (IV),



wherein EO represents ethylene_oxide; NonEO represents non-ethylene_oxide; PO represents propylene_oxide; NonPO represents non-propylene_oxide; A⁻ represents an anion; C⁺ represents a cation; m + n = 1; and n represents a number more than 0 and less than 1.

12. (Currently amended) The electroluminescent device of Claim 2, wherein the movable ion in the electron-injecting layer ~~is~~ comprises a single cation-conductor.

13. (Currently amended) The electroluminescent device of Claim 12, wherein the polymeric compound is represented by one or more formulas ~~single cation-conductor comprises a material selected from the group consisting of polymer of the formula (I) and polymer of the formula (II),~~



wherein EO represents ethylene_oxide; NonEO represents non-ethylene_oxide; PO represents propylene_oxide; NonPO represents non-propylene_oxide; A⁻ represents an anion; C⁺ represents a cation; m + n = 1; and n is a number more than 0 less than 1.

14. (Currently amended) An electroluminescent device comprising:

a transparent substrate;

a semitransparent electrode deposited on the transparent substrate;

a hole-injecting layer comprising a single anion-conductor, positioned on the semitransparent electrode, the hole-injecting layer comprising a polymeric compound and a movable anion, the polymeric compound having at least one block of [O-(CH₂)_x]_y units and at least one non-movable cationic moiety, wherein x is an integer equal to or greater than two, wherein y is an integer equal to or greater than two;

an emissive layer comprising an organic electroluminescent material, positioned on the hole-injecting layer;

~~an electron-injecting layer comprising a single cation conductor, positioned on the emissive layer, the electron-injecting layer comprising a polymeric compound and a movable cation, the polymeric compound having at least one block of $[O-(CH_2)_{x'}]_{y'}$ units and at least one non-movable anionic moiety, wherein x' is an integer equal to or greater than two, wherein y' is an integer equal to or greater than two; and,~~

a metal electrode deposited on the electron-injecting layer.

15. (Currently amended) An electroluminescent device comprising:

a transparent substrate;

a semitransparent electrode deposited on the transparent substrate;

~~an electron-injecting layer comprising a single cation conductor, positioned on the semitransparent electrode, the electron-injecting layer comprising a polymeric compound and a movable cation, the polymeric compound having at least one block of $[O-(CH_2)_{x'}]_{y'}$ units and at least one non-movable anionic moiety, wherein x' is an integer equal to or greater than two, wherein y' is an integer equal to or greater than two;~~

an emissive layer comprising an organic electroluminescent material, positioned on the electron-injecting layer;

~~a hole-injecting layer comprising a single anion conductor, positioned on the emissive layer, the hole-injecting layer comprising a polymeric compound and a movable anion, the polymeric compound having at least one block of $[O-(CH_2)_x]_y$ units and at least one non-movable cationic moiety, wherein x is an integer equal to or greater than two, wherein y is an integer equal to or greater than two; and,~~

a metal electrode deposited on the hole-injecting layer.

16. (Currently amended) An electroluminescent device comprising:

a transparent substrate;

a semitransparent electrode deposited on the transparent substrate;

~~a hole-injecting layer comprising a single anion conductor, positioned on the semitransparent electrode, the hole-injecting layer comprising a polymeric compound and a movable anion, the polymeric compound having at least one block of $[O-(CH_2)_x]_y$ units~~

and at least one non-movable cationic moiety, wherein x is an integer equal to or greater than two, wherein y is an integer equal to or greater than two;

an emissive layer comprising an organic electroluminescent material, positioned on the hole-injecting layer; and,

a metal electrode deposited on the emissive layer.

17. (Currently amended) An electroluminescent device comprising:

a transparent substrate;

a semitransparent electrode deposited on the transparent substrate;

~~a electron-injecting layer comprising a single cation conductor, positioned on the semitransparent electrode,~~ the electron-injecting layer comprising a polymeric compound and a movable cation, the polymeric compound having at least one block of $[O-(CH_2)_x]_y$ units and at least one non-movable anionic moiety, wherein x is an integer equal to or greater than two, wherein y is an integer equal to or greater than two;

an emissive layer comprising an organic electroluminescent material, positioned on the electron-injecting layer; and,

a metal electrode deposited on the electron-injecting layer.

18. (Currently amended) An electroluminescent device comprising:

a transparent substrate;

a semitransparent electrode deposited on the transparent substrate;

an emissive layer comprising an organic electroluminescent material, positioned on the semitransparent electrode;

~~an electron-injecting layer comprising a single cation conductor, positioned on the emissive layer,~~ the electron-injecting layer comprising a polymeric compound and a movable cation, the polymeric compound having at least one block of $[O-(CH_2)_x]_y$ units and at least one non-movable anionic moiety, wherein x is an integer equal to or greater than two, wherein y is an integer equal to or greater than two; and,

a metal electrode deposited on the electron-injecting layer.

19. (Currently amended) An electroluminescent device comprising:

a transparent substrate;

a semitransparent electrode deposited on the transparent substrate;

an emissive layer comprising an organic electroluminescent material, positioned on the semitransparent electrode;

a hole-injecting layer comprising a polymeric compound and a movable anion, the polymeric compound having at least one block of $[O-(CH_2)_x]_y$ units and at least one non-movable cationic moiety, wherein x is an integer equal to or greater than two, wherein y is an integer equal to or greater than two; and;

a metal electrode deposited on the hole-injecting layer.

Please add new Claims 20-25.

20. (New) The electroluminescent device of Claim 1, wherein in the hole-injecting layer, the movable ion is an anion.

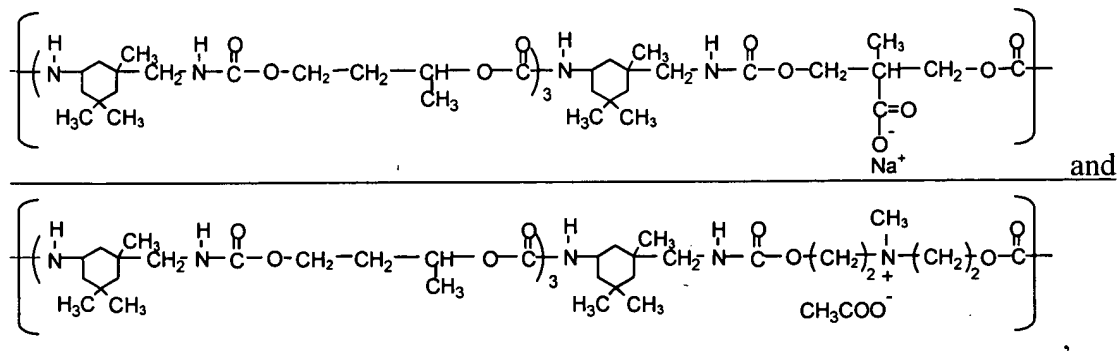
21. (New) The electroluminescent device of Claim 1, wherein in the electron-injecting layer, the movable ion is a cation.

22. (New) The electroluminescent device of Claim 1, wherein the at least one block is selected from the group consisting of poly(ethylene oxide) and poly(propylene oxide).

23. (New) The electroluminescent device of Claim 1, wherein the at least one of the hole-injecting layer and the electron-injecting layer has conductivity of greater than 1×10^{-8} s/cm.

24. (New) The electroluminescent device of Claim 2, wherein the at least one of the hole-injecting layer and the electron-injecting layer has conductivity of greater than 1×10^{-8} s/cm.

25. (New) The electroluminescent device of Claim 2, wherein the polymeric compound comprises one or more segments selected from the group consisting of:



wherein Na^+ and CH_3COO^- are the movable ions.